A CASE OF PERINEAL LITHOTRITY, WITH SOME REMARKS UPON DILATATION OF THE PROSTATE.[1]

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IT is so seldom that we have the opportunity of observing in one individual the result of different methods of treatment, that I have thought the following case might be of interest and worthy of comment.

In the autumn of 1889 I was called to a distant town to see a gentleman who was reported to be suffering extremely with some bladder trouble. I found a well-preserved, resolute person, aged fifty-nine, suffering constant pain in his bladder, and urinating every ten or fifteen minutes, night and day, the act accompanied by violent straining. The urine was foul and loaded with muco-pus, which at times was stained with blood.

The first examination revealed the presence of stone. He came to New York, to St. Luke's Hospital, where I did a supra-pubic cystotomy and removed a stone weighing nearly 400 grains. The bladder was in an extremely bad condition, the mucous membrane soft, bluish-red in appearance and ready to bleed upon the least touch. There was also a prostatic outgrowth on each side of the opening of the urethra about the size of a large cherry. These were thoroughly excised until the opening from the bladder into the urethra was unobstructed. Syphon drainage was instituted in the usual manner. For the first four days his condition was very bad, and he suffered extremely. Then there was relief to his pain, a cessation of the convulsive expulsive efforts of the bladder, and for twelve days he did well in all respects. Then began a rise of temperature from 101° to 103°, for which no cause could be ascertained. There was no

[1] Read at the meeting of the New York Surgical Society, February 8, 1893.

source of suppuration anywhere, and I came to the conclusion that a change of air would be necessary to rally his vital forces, and accordingly sent him to his country home. Within twenty-four hours after his return his temperature suddenly dropped to normal, and the reports from him continued to be for some months of a most encouraging kind, excepting that he was obliged to resort to a frequent use of the catheter in order to relieve the bladder. He had the ability to expel a small quantity of urine, but was compelled to lie on one side or the other in order to accomplish this. He remained in this condition for about six months, when word was sent that he was again urinating with great frequency and pain, and that he was thought to have another stone. I found that he had an attack of prostatitis with an aggravation of his cystitis. Searching of the bladder revealed no stone. He was put to bed again, and the washing of the bladder was instituted systematically, with the result that in two weeks there was a very great improvement in his condition. But when he considered himself at his best he was obliged to urinate every two hours in the manner which I have mentioned, and was compelled to frequently resort to the catheter in order to empty the bladder.

Without entering into the details of this gentleman's condition for the next two years, I may say that he has had these attacks of pain with frequent and violent urination at varying intervals. Repose in bed and careful ablution of the bladder would, in a few days, get him back to what he was pleased to consider his normal condition.

In February, 1892, he had so severe an attack of this nature that I felt tolerably certain another stone had formed. Accordingly, he came to New York for a few days and I searched him most carefully, finally putting in an evacuating tube and with the evacuator driving a current of fluid with considerable force through the bladder. The results were entirely negative. There was not even the slightest "click." After this he improved somewhat, but during the spring and summer of 1892 his visits to me were fugitive, and his condition gradually became worse, until finally he was bed-ridden, and in October I was sent for again. On searching, which was done quickly and cursorily because of his pain, a stone was immediately detected. It seemed to be of small size, and I concluded that litholapaxy with cocaine anæsthesia would remove it. For this purpose he came to the city. He was then suffering extremely, the expulsive efforts of the bladder being agonizing. Not even with the aid of the strongest anodynes could he obtain the slightest relief. There was no difficulty

in *introducing* instruments or the catheter, but it was impossible for him to empty his bladder without the aid of the latter. The first introduction of the lithotrite revealed the presence not only of this stone, but of another, apparently of large size, and there was also an encrustation of the anterior wall of the bladder. I crushed the movable stone, washed it out and then desisted, for the purpose of considering with him the necessity for a more extensive operation. My experience with him in the previous supra-pubic operation had been so hazardous that I hesitated to propose this. The sensations conveyed through the lithotrite satisfied me that the stone or stones were soft and could easily be reached through the perinæum, and that the latter opening would give me better drainage than the supra-pubic alone. I accordingly proposed to him the operation of perineal lithotrity, or Dolbeau's operation. This was done November 10, 1892. The operation, as you know, consists in passing a grooved staff into the bladder. The tissues of the perinæum are then incised until the point of the knife enters the staff behind the bulb of the urethra, and the opening being made free enough to receive the point of Dolbeau's bladed dilator, the latter is entered and held firmly against the staff. The blades of the dilator are then gradually and slowly dilated to their widest extent, which forms a channel in the perinæum. The dilator is then closed and, guided by the staff, which is depressed to an angle of 130° or 140° to the plane of the abdomen, its point is made to enter the neck of the bladder. The staff is then withdrawn and, the dilating instrument being firmly held, is again gradually and slowly dilated. In this way a canal of from one inch to one and one-half inches in diameter is made, and through this the crushing instruments are easily introduced into the bladder.

The exploring finger showed that the floor of the bladder was occupied by a large number of irregularly-shaped calculi, and that the whole neck of the bladder, with a portion of its anterior wall, was also encrusted. After considerable labor these were removed, and the bladder wall thoroughly curetted. The débris weighed 700 grains.

The removal of the stones and the cleansing of the bladder was the prolonged part of the operation. A rubber drainage tube was placed in the bladder through the perineal wound and was completely surrounded by a close packing of iodoform gauze. The other end of the tube, lengthened by splicing, was weighted and placed beneath a solution of boric acid in a large bottle. Syphon drainage was thus instituted and was perfect, excepting when the tube was stopped from

time to time by masses of muco-pus, which for nine days were being constantly formed. After that the drainage was uninterrupted, and the relief to the bladder was very marked. On the fifteenth day there was a sudden rise of temperature to 101°, which persisted four days, then gradually declined, and after that his convalescence was a very satisfactory one. The drainage was maintained for four weeks, and after the tube was withdrawn the perineal wound healed in eleven days. The expulsive power of the bladder was quickly regained, and he was able to urinate *standing* from the first.

At present the interval of urination during the day varies from four to six hours, and this is under the control of his will. At night the interval is from seven to nine hours, according to the amount of sleep he takes. There is no tenesmus and none of the urgency to urinate which he had after the first operation.

He is able to urinate spontaneously *standing* and in a full stream, and when the catheter is passed once a day for the purpose of washing there is only one and rarely two ounces of residual urine. This improvement in his power of urination is the result to which I wish to call your especial attention. During the first operation the apparent obstacles to urination, namely, the prostatic outgrowths and the calculus, had been removed, and *after* the operation the bladder had been drained as long and kept as clean as after the second. But there was very little spontaneous urination, and the act was accomplished in a hesitating, dribbling stream, leaving a notable quantity of residual urine to decompose and fret an already irritable bladder. After the perineal operation, however, he was able to stand up and almost entirely empty his bladder in a strong, full stream with every sense of comfort. An explanation of the difference in the result must be sought for, and I think it is to be found in the enormous dilatation to which the prostatic urethra was subjected in the perineal operation. This fact, I believe, has an important bearing upon the many failures to obtain spontaneous urination after prostatectomy.

It should be remembered that the prostate surrounds the neck of the bladder and the urethra; that its enlargement may consist not only of an outgrowth into the cavity of the bladder, but of a hyperplasia of that portion of it which is external to the latter. Its constituent tissues, whether muscular, glandular or fibrous, are hyperplastic in both localities and may be contractile. Hence it follows that in many cases, even if the outgrowth, *i. e.*,

the part which projects into the cavity of the bladder, be carefully and thoroughly removed, that portion which surrounds the urethra may be so rigid and contractured that no relief to urination is obtained. In opening the bladder from above I have frequently endeavored to test the rigidity and contraction of the neck of the bladder and prostatic urethra to which I refer by introducing my finger from within the bladder. This condition can usually be appreciated by making counter-pressure with the other hand against the perineum, which will also enable the operator to estimate the amount of force required to dilate this unyielding portion. Although in the first operation I removed the prostatic outgrowths which seemed to be the chief cause of urinary obstruction, and dilated the prostatic urethra with my finger, yet after that, so far as urination was concerned, he was no better than he had been before. Belfield, in his paper on prostatectomy, speaks of the necessity for this dilatation, but I am of the opinion that the finger is not sufficient. Whether the great dilatation which resulted from the powerful expansion of the Dolbeau instrument may have paralyzed or ruptured some of the muscular fibres of the prostate, I am unable to say, but at all events from that time on the prostatic urethra has remained widely open, and has offered very little obstruction to the emptying of the bladder.